* 1. **Probabilities of Simple Independent Events**

Name:\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_

**Lesson Focus:** Mathletes will be able toSolve probability problems involving two independent events

**Definitions:**

* Independent events
  + The outcome of one event has **no** effect on the outcome of another event
* Sample space
  + All possible outcomes of an experiment
    - Coin: Heads, Tails
    - 6-sided die: 1, 2, 3, 4, 5, 6
* Tree Diagram
  + A diagram used to organize outcomes
  + Contains a branch for each possible outcome of an event
* Random
* An event in which every outcome has an equal chance of occurring

**Example:**

Our school is putting on a play – “The Happy Dumpling!” The stage has steps going down the front, both sides and two sets of stairs going down the back (to get into the change rooms). During a school play, each character enters through one of the five sets of stairs. The next character to enter the stage can be either a boy or a girl.

Let’s Draw and label a diagram of the stage and the characters to help understand the problem better

1. Draw a tree diagram to show the sample space of characters entering the stage on the various sets of stairs
2. What is P(boy, front stairs)? Show your answer as a fraction, decimal and percent.
3. What is P(girl, left stairs)
4. What is P(boy, not the back stairs)
5. Just for fun (and just to see if you remember how to do it) use a table to find the sample space of the school play question.

**TRY:**

A marble is randomly selected from a bag containing one blue, one red, and one green marble. Then, a four-sided die labeled 1, 2, 3, and 4 is rolled

1. Draw the bag of marbles and die
2. Use a Tree diagram to determine the sample space
3. What is P(green,even)? Show your answer using a fraction, decimal and percent.
4. Use a table to determine the sample space
5. Find P(red, 9) Show your answer in a fraction, decimal and percent.
6. What is the probability of getting a blue and a 4?
7. Find P (orange, 2)
8. Find P(not green, 3)

Challenge Questions:

1. What is the probability of pulling any colour and any number except a 3?

1. What is P(blue *or* green, a number greater than 1)?

**ASSIGNMENT:**

P. 175, #1-2 (as a class), 3, 4, 6, 8, 9

Still good? P. 176, #10 & 11, 13.

Pro star? # 14 & 15